**UNITED STATES DISTRICT COURT**
**FOR THE DISTRICT OF MASSACHUSETTS**

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| WORLDS, INC.,<br><br>        Plaintiff,<br><br>        v.<br><br>ACTIVISION BLIZZARD, INC.,<br>BLIZZARD ENTERTAINMENT, INC.<br>and ACTIVISION PUBLISHING, INC.,<br><br>        Defendants. | )<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>) | Civil Action No. 1:12-CV-10576 (DJC)<br><br>Activision Blizzard, Inc., Blizzard<br>Entertainment, Inc., and Activision Publishing,<br>Inc.'s Opening Claim Construction Brief<br><br>(Leave to file granted on April 14, 2013) |

**ACTIVISION BLIZZARD, INC., BLIZZARD ENTERTAINMENT, INC.**
**AND ACTIVISION PUBLISHING, INC.'S**
**OPENING CLAIM CONSTRUCTION BRIEF**

**TABLE OF CONTENTS**

## TABLE OF AUTHORITIES

**Page(s)**

**CASES**

**STATUTES**

## I.    INTRODUCTION

Plaintiff Worlds, Inc. ("Worlds") alleges that Activision[1] infringes 55 claims of five

related patents-in-suit.  The patents-in-suit are directed to a client-server network that enables a

large number of users to interact in a virtual world displayed on a computer screen.  Users

interact in the virtual world through an "avatar," which is a graphical representation of the user

in the virtual world.  The fundamental issue that the patents seek to address is the need to ensure

that users (called "clients") do not get overwhelmed by the crowds of avatars likely to occur in a

large-scale virtual world.  The patents refer to this problem as "crowd control."  To solve the

problem of crowd control, the patents disclose a system in which the server sends each client

information for no more than a set maximum number of other users.

As explained below, Activision proposes constructions for the claim terms that are

consistent with the intrinsic evidence, including the language of the claims themselves as read in

light of the patent specification and the prosecution histories.  Indeed, it is essential in this case

to view the claims in the context of the specification's description of the alleged invention.

Interpreting the claims without due consideration of the teachings of the specification and the

problems that the patents purport to solve would result in hopelessly overbroad claims that far

exceed the scope of what the patents disclose.  Thus, as shown below, Activision adheres to the

Federal Circuit's view that "[t]he construction that stays true to the claim language and most

naturally aligns with the patent's description of the invention will be, in the end, the correct

construction."  *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005).

Worlds' approach to claim construction, on the other hand, is contrary to law and

inconsistent with the intrinsic evidence.  In most instances, rather than interpret the claim

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[1]      "Activision" refers to defendants Activision Blizzard, Inc., Blizzard Entertainment, Inc.
and Activision Publishing, Inc.

language based on the specification, Worlds takes the position that no construction of the claim term is necessary.  Although Worlds will undoubtedly assert that it is relying on the "ordinary meaning" of these terms, Worlds' position is simply an effort to ignore the disclosure of the patents and read the claims in a vacuum.  Worlds' approach is an impermissible but common stratagem of patentees to say little about claim terms during construction so that they may argue that the claims mean whatever they want in urging infringement.

The requirement that claim terms are given their ordinary meaning does not mean that terms need not be construed.  To the contrary, the ordinary meaning of a claim is "its meaning to the ordinary artisan after reading the entire patent." *Phillips*, 415 F.3d at 1321.  Thus, the claims must be construed "in light of the written description, but not beyond it, because otherwise they would be interpreted to cover inventions or aspects of an invention that have not been disclosed." *LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 433 F.3d 1373, 1375 (Fed. Cir. 2006).

For the reasons set forth herein, Activision respectfully requests that the Court adopt Activision's proposed constructions for the disputed terms.

## II.    THE NATURE AND STAGE OF THE CASE

On March 30, 2012, Worlds filed this action against Activision for alleged infringement of four patents:  U.S. Patent Nos. 7,181,690 ("the '690 patent"), 7,493,558 ("the '558 patent"), 7,945,856 ("the '856 patent"), and 8,082,501 ("the '501 patent") (respectively, Declaration of Kathryn Hong in Support of Activision's Opening Claim Construction Brief ("Hong Decl.") Exs. 1-4). On September 21, 2012, Worlds amended its Complaint to add a claim of infringement of U.S. Patent No. 8,145,998 ("the '998 patent"), which issued on March 27, 2012 (Hong Decl. Ex. 5).  Worlds currently alleges infringement of the following claims:  '690 patent claims 1-20; '558 patent claims 4-9; '856 patent claim 1; '501 patent claims 1-8, 10, 12, 14-16;

and '998 patent claims 1-3, 7-8, 11-20.[2]

The patents-in-suit are all part of the same patent family and share a common specification. The earliest issued of the asserted patents – the '690 patent – was filed on August 3, 2000, as a continuation of a parent application that was filed in 1996. Since that time, Worlds has filed a succession of continuation applications that led to the issuance of the five patents-in-suit. The most recently issued of the patents-in-suit – the '998 patent – was not filed until March 19, 2009 (more than 12 years after the original parent application was filed) and did not issue until March 27, 2012 (more than 15 years after the original parent application was filed).

Activision Blizzard is the worlds' most successful video game company. Worlds' claims of infringement are directed against Activision's *Call of Duty* and *World of Warcraft* video game products, which are two of the most commercially successful video games in history.

Worlds is a patent holding company whose primary business is the licensing and enforcement of this family of patents. Worlds was formed in the mid-1990s as a small start-up company, during which time Worlds developed and hosted some virtual worlds systems. Worlds' virtual worlds systems never achieved substantial commercial success. As a result, in 2001, Worlds went inactive for six years because the company was not able to sustain its business. Worlds restarted its operations in 2007, largely as a patent assertion entity. Worlds' place of business is the home of its CEO, Thomas Kidrin.

This lawsuit is in discovery. Pursuant to the Court's scheduling orders and further agreement by the parties, Worlds and Activision exchanged proposed claim terms on March 20,

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[2]     On April 17, 2013, counsel for Worlds notified counsel for Activision via e-mail that Worlds is no longer asserting infringement of '558 patent claims 1-3 and '998 patent claim 21 against Activision.

2013; exchanged proposed constructions for the proposed claim terms on March 29, 2013; and met-and-conferred multiple times in an attempt to narrow the disputed terms for construction.  A *Markman* hearing before the Court is currently scheduled for June 27, 2013.

## III.   THE PATENTS-IN-SUIT

The patents-in-suit are directed to a client-server network system for enabling multiple users to interact with each other in a virtual world.  The patents explain that "[a] client-server network is a network where one or more servers are coupled to one or more clients over a communications channel."  Hong Decl. Ex. 1, '690 patent at 1:15-17.[3]

The specification of the patents-in-suit explains that "[t]he present invention provides a highly scalable architecture for a three-dimensional graphical, multi-user, interactive virtual world system."  *Id.* at Abstract.  The term "highly scalable" means that the system has the ability to allow a very large number of users to connect to and interact in the virtual world at the same time.  In the system disclosed in the patents-in-suit, each user is represented visually in the virtual space by an avatar and interacts with a client system that "is networked to a virtual world server."  *Id.* at 3:4-5.  "Each user is free to move his or her avatar around in the virtual world.  In order that each user see[s] the correct location of each of the other avatars, each client machine sends its current location, or changes in its current location, to the server and receives updated position information of the other clients."  *Id.* at 3:29-34.

Figure 1 of the '690 patent below provides a depiction of two users that are each represented in a virtual world by a penguin avatar.

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[3]     "1:15-17" refers to column 1, lines 15-17.  Citations to the patents-in-suit are made by referring to the column number followed by a colon and then the line numbers – that is, "[column number]:[line numbers]."  For ease of reference, all of the patent citations are to the specification of the '690 patent, which is identical in all material ways to the specification of the other four patents-in-suit.
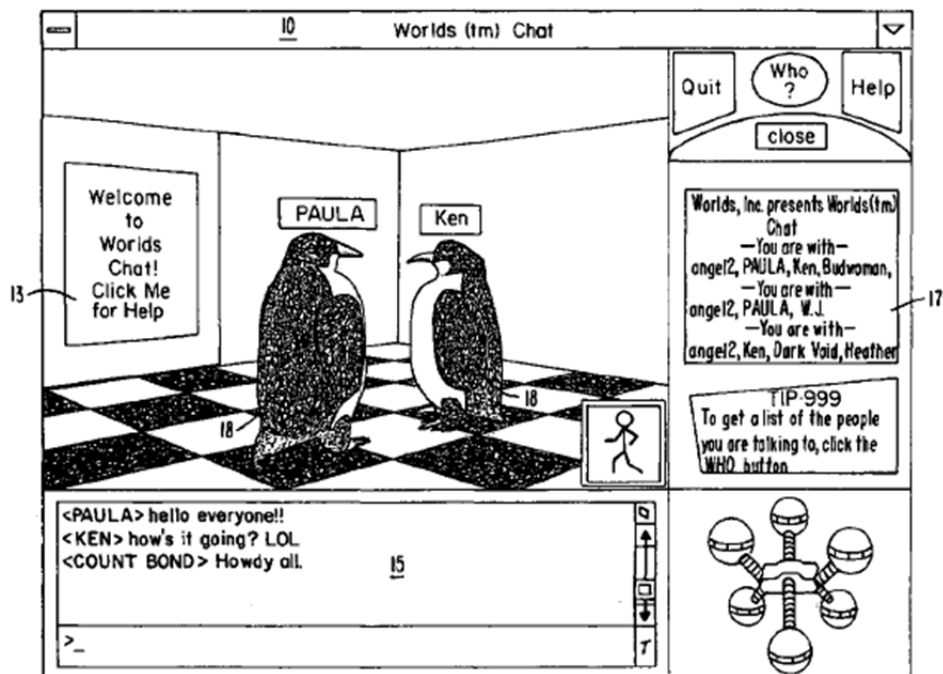
Claim 1 of the '690 patent is representative of the asserted claims of the patents-in-suit

(emphasis added):

> 1. A method for enabling a first user to interact with other users in a virtual space, wherein the first user and the other users each have an avatar and a client process associated therewith, and wherein each client process is in communication with a server process, wherein the method comprises:
>
> *(a) receiving a position of less than all of the other users' avatars from the server process; and*
>
> *(b) determining, from the received positions, a set of the other users' avatars that are to be displayed to the first user,*
>
> wherein steps (a) and (b) are performed by the client process associated with the first user.

The two claim limitations highlighted above relate to two concepts that are central to the patents-in-suit: (1) server filtering, by which the server filters which information to send to a client so that the client will "receiv[e] a position of less than all of the other users' avatars" and (2) client filtering, by which the client filters the information received from the server to "determin[e], from the received positions, a set of the other users' avatars that are to be displayed."

5

**Server Filtering.**   The patents-in-suit state that in order for "the virtual world [to be] scalable to a large number of clients, the virtual world server must be much more discriminating as to what data is provided to each client[]."   Hong Decl. Ex. 1, '690 patent at 3:41-44.   The patents refer to this need for the server to be selective as "crowd control" and note that "[c]rowd control is one of the tougher problems *solved by the present system*."   *Id.* at 13:23-24 (emphasis added).   According to the patents-in-suit, "'crowd control' … is needed in some cases to ensure that neither client 60 nor user A get[s] overwhelmed by the crowds of avatars likely to occur in a popular virtual world."   *Id.* at 5:31-35.   To allow a user to interact effectively with a large number of other users in a virtual space, the server must limit how much information about the other users it sends to each client.   At the time of the filing of the patents-in-suit in the 1990s, limiting the amount of data sent by the server to each client was necessary because of the constraints on network capacity and the processing power of client computers at that time.   Thus, if the server sent data about a large number of users to a client, the client might be "overwhelmed" because it might not be able to handle processing such a large amount of data.

The patents-in-suit purport to solve this problem of crowd control in a specific manner – namely, by providing a "[s]erver 61 [that] maintains a variable, N, *which sets the maximum number of other avatars A will see*."   *Id.* at 5:31-37 (emphasis added); *see also id.* at 13:25-32 ("In a typical situation, the number of avatars in a room is too large to be handled by client 60 and displayed on display 122 …. Server 61 addresses this problem by maintaining, for each user, a list of the N avatars nearest to the location of that user's avatar.")

Thus, the patents-in-suit disclose a client-server architecture where the server maintains a set maximum number of the other users' avatars that it will send to each client.   The patents explain, "Once the number of avatars to be shown is determined, server 61 determines which N

avatars are closest to A's avatar, based on which room of the world A's avatar is in and the coordinates of the avatars." *Id.* at 5:45-48.  Thus, if a virtual space has 100 users, and the value of N is set at eight, the server identifies the eight users who are closest to a particular client and sends positions for only those eight users' avatars to that client.  The client does not receive any information at all for the other 92 users in the virtual space.  Identifying no more than a set maximum number of the other users' avatars to send to each client ensures that each client is able to handle the processing of the data it receives.  This is how the invention described in the patent addresses the problem of "crowd control" to provide a "highly scalable architecture."

**Client Filtering.**  In addition to the set maximum number N that is imposed by the server, the patents also disclose that each client may further filter the number of other avatars that it displays.  For example, the client may "maintain[] a variable, *N'*, which might be less than N, which indicates the maximum number of avatars client 60 wants to see/or hear."  Hong Decl. Ex. 1, '690 patent at 5:37-40 (emphasis added).  If N' is less than N, the client then "uses position data to select N' avatars from the N avatars provided by the server." *Id.* at 6:6-8.  The patents disclose that "[o]ne reason for setting N' less than N is where client 60 is executed by a computer with less computing power than an average machine and tracking N avatars would make processing and rendering of the virtual world too slow." *Id.* at 5:41-45.  Thus, in a system where N = 8 at the server and N' = 6 at the client, a client receives data for eight of the other users in the virtual space but might process and display data for only six avatars because it has "less computing power than an average machine."

## IV.   THE LAW OF CLAIM CONSTRUCTION

A patent claim provides the public with notice of the metes and bounds of an invention. Before determining whether a patent claim is infringed, the meaning and scope of the claim must be decided.  *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996).  This

process is referred to as claim construction.  Determination of the meaning and scope of the

patent claims is a matter of law reserved exclusively for the Court.  *Markman*, 517 U.S. at 372.

   **The Patent Claims**.  In general, claim language is "given [its] ordinary and customary

meaning" which is "the meaning that the term would have to a person of ordinary skill in the art

in question at the time of the invention, i.e., as of the effective filing date of the patent

application."  *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (quoting

*Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) and citing

*Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111 (Fed.Cir.2004)).

"The person of ordinary skill in the art is deemed to read the claim term not only in the context

of the particular claim in which the disputed term appears, but in the context of the entire patent,

including the specification."  *Id.* at 1313.  Thus, "[p]roperly viewed, the 'ordinary meaning' of a

claim term is its meaning to the ordinary artisan after reading the entire patent."  *Id.* at 1321.  As

a result, a patent's "claims are not construed in a vacuum, but rather in the context of the intrinsic

evidence, *viz.*, the other claims, the specification, and the prosecution history."[4]  *Jansen v. Rexall*

*Sundown, Inc.*, 342 F.3d 1329, 1333 (Fed. Cir. 2006).

   **The Patent Specification**.   The law requires that the specification of the patent

adequately "describe the invention set forth in the claims."  *Phillips*, 415 F. 3d at 1312.  "The

descriptive part of the specification aids in ascertaining the scope and meaning of the claims

inasmuch as the words of the claims must be based on the description.  ***The specification is,***

***thus, the primary basis for construing the claims***."  *Id*. at 1315 (citation omitted; emphasis

added).   Moreover, "[t]he close kinship between the written description and the claims is

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[4]     The intrinsic evidence consists of the patent specification (*i.e.*, the figures and written
description), the claims, and the record of the patent's examination by the United States Patent
and Trademark Office ("USPTO"), which is commonly referred to as the prosecution or file
history.

enforced by the statutory requirement that the specification describe the claimed invention in 'full, clear, concise, and exact terms.'" *Id*. at 1316 (quoting 35 U.S.C. § 112, ¶ 1).  Indeed, the USPTO rules require that "the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description." *Id*. at 1316-17 (quoting 37 C.F.R. § 1.75(d)(1)) (emphasis added).

Thus, it is well-established law that claims "must be read in view of the specification, of which they are a part." *Id.* at 1315.  The specification "is always highly relevant to the claim construction analysis.  Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Id*. (citation omitted).  "The claims are directed to the invention that is described in the specification; they do not have meaning removed from the context from which they arose." *Netword, LLC v. Centraal Corp*., 242 F.3d 1347, 1352 (Fed. Cir. 2001).

The Federal Circuit has acknowledged that "the distinction between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim can be a difficult one to apply in practice." *Phillips*, 415 F. 3d at 1323. Nevertheless, "where the specification makes clear at various points that the claimed invention is narrower than the claim language might imply, it is entirely permissible and proper to limit the claims." *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1370 (Fed. Cir. 2003) (citing *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1345 (Fed. Cir. 2001)). The claims of a patent may be broadly written, but the claims cannot "enlarge what is patented beyond what the inventor has described as the invention." *Netword, LLC*, 242 F.3d at 1352; *On Demand Machine Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1340 (Fed. Cir. 2006) ("[C]laims cannot be of broader scope than the invention that is set forth in the specification."); *see also*

9

*LizardTech*, 433 F.3d at 1375 ("[W]hatever form the claims are finally issued, they must be interpreted, in light of the written description, but not beyond it, because otherwise they would be interpreted to cover inventions or aspects of an invention that have not been disclosed …. One does not receive entitlement to a period of exclusivity for what one has not disclosed to the public.") (Lourie, J., concurring).

Consistent with these principles, the Federal Circuit has repeatedly found that a patentee "is not entitled to a claim construction divorced from the context of the written description and prosecution history." *Nystrom v. Trex Co.*, 424 F.3d 1136, 1144-45 (Fed. Cir. 2005); *see also Honeywell Int'l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312 (Fed. Cir. 2006) (holding the "fuel injection system component" must be limited to a fuel filter because that was the only thing disclosed by the specification); *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374 (Fed. Cir. 2006) (rejecting district court's broad construction of the term "adjustable" because it placed too much emphasis on the ordinary meaning without adequate grounding within the context of the specification); *AquaTex Indus., Inc. v. Techniche Solutions*, 419 F.3d 1374 (Fed. Cir. 2005) (holding "fiberfill" must be limited to synthetic materials, thereby excluding natural materials, based on the specification and extrinsic evidence that consistently used fiberfill to refer to synthetic materials).

The decisions of the Federal Circuit hold that courts must ensure that claims are construed consistently with what was disclosed by the inventor. "Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Phillips*, 415 F.3d at 1316.

**The Prosecution History**.  In addition to the words of the claim and the specification, courts "should also consider the patent's prosecution history, if it is in evidence." *Id.* at 1317 (citation omitted).  The prosecution history consists of "the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent." *Id.*  The prosecution history can be helpful in understanding the meaning of the claims "by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

**Extrinsic Evidence**.   The Court may also consider extrinsic evidence – including dictionaries, treatises, and expert testimony. *Id.* at 1317.  Extrinsic evidence may be useful "to help educate the court regarding the field of the invention and can help the court to determine what a person of ordinary skill in the art would understand claim terms to mean." *Id*. at 1319.  However, extrinsic evidence "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Id.*

## V.    THE PROPER CONSTRUCTION OF THE DISPUTED TERMS

In the following sections, Activision identifies the parties' proposed claim constructions and the areas of dispute, and explains why Activision's proposed constructions should be adopted.  Appendix A contains a table with each of the terms discussed below and each party's proposed construction.[5]

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5      Activision's Opening Claim Construction Brief and Appendix A contain Worlds' proposed constructions that Worlds presented to Activision during the parties' exchange of proposed claim terms and constructions and further discussions between the parties in an attempt to narrow the disputes over claim construction.

### A.      "POSITION OF LESS THAN ALL OF THE OTHER USERS' AVATARS"

| Claim Language | Relevant Claims | Proposed Constructions |
|---|---|---|
| position of less than all of the other users' avatars | '690 Claims 1-20;<br>'558 Claims 4-9;<br>'856 Claim 1;<br>'501 Claims 1-8, 10, 12, 14-16;<br>'998 Claims 1-3, 7-8, 11-20 | **Activision** – positions for up to a set maximum number of the other users' avatars, which is less than the total number of other users' avatars |
| | | **Worlds** – No construction necessary |
| See Appendix B for a complete list of all variations of this claim term[6] | | |

The phrase "position of less than all of the other users' avatars," or a variation thereof, appears in all of the asserted claims.  This limitation refers to what information the client receives from the server.  Claim 1 of the '690 patent provides an example:

> 1. A method for enabling a first user to interact with other users in a virtual space, wherein the first user and the other users each have an avatar and a client process associated therewith, and wherein each client process is in communication with a server process, wherein the method comprises:
>
> (a) *receiving a position of less than all of the other users' avatars* from the server process; and
>
> (b) determining, from the received positions, a set of the other users' avatars that are to be displayed to the first user,
>
> wherein steps (a) and (b) are performed by the client process associated with the first user.

Claim 1 of the '690 patent is directed to a method for enabling multiple users to interact in a virtual space, wherein the method comprises:  1) a client receiving positions of "less than all of the other users' avatars" from the server and 2) the client determining which of the received users' avatars it should display.  If one simply looks at this claim in isolation, as Worlds proposes to do, the claim is broad to the point of being almost meaningless.  For example, if a

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[6]      There are ten variations of the phrase "position of less than all of the other users' avatars" that appear in the asserted claims.  Activision believes that the variations of this phrase should be construed in the same manner.  Thus, Activision addresses only one instance of this phrase in this brief, but has provided a list of all ten variations in Appendix B along with Activision's proposed construction for each variation.

client receives positions for 999 out of 1000 other users, this would literally constitute receiving a position of "less than all of the other users," even though the client has received positions for the vast majority of other users and might not be able to display them efficiently.  This is contrary to what is disclosed in the patents.

The claims of a patent cannot be read in a vacuum.  Rather, claims "must be read in view of the specification, of which they are a part." *Phillips*, 415 F. 3d at 1315.  Moreover, the claims of a patent may be broadly written, but the claims can not "enlarge what is patented beyond what the inventor has described as the invention." *Netword, LLC*, 242 F.3d at 1352.  Thus, to understand what the phrase "less than all" means, it is necessary to look to the specification.

The specification itself never uses the term "less than all" to describe how position information is sent from the server to the client.  Rather, the specification of the patents-in-suit consistently, and without exception, discloses a client-server system in which the server sends a client positions for up to a set maximum number of the other users' avatars.  The following examples are illustrative:

- "Server 61 maintains a variable, N, which sets the maximum number of other avatars A will see."  Hong Decl. Ex. 1, '690 patent at 5:36-37.

- "Server 61 addresses this problem by maintaining, for each user, a list of the N avatars nearest to the location of that user's avatar." *Id.* at 13:30-32.

- "User object 64 also maintains a list of the N nearest neighboring remote avatars … in the room.  This list is used to notify the user object's client 60 regarding changes in the N closest remote avatars and their locations in the room." *Id.* at 14:41-46.

- "Each user is placed in exactly one square.  Then, for each user, the cells are scanned in an outwardly expanding wave beginning with the cell containing the current user of interest, until at least N neighbors of that user are found.  If more, than N are found, the list of neighbors is sorted, and the closest N are taken." *Id.* at 15:1-6.

*See also id.* at 5:30-48; 13:23-32; 14:38-49; 14:59-15:6; 15:60-62.  Thus, when the claims are read in light of the invention described in the specification, it is apparent that "less than all" must refer to the set maximum number of other users that each client receives from the server.

13

The "invention" disclosed in the patents-in-suit is a method or system whereby the server sends each client positions for no more than a set maximum number of other users.  This is the only way that the patents disclose how a client receives "less than all" of the other users.  This is all that the inventors are entitled to claim.  *See Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) ("Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim.").

Review of the specification also shows that the patentees did ***not*** invent a system or method that sends each client positions of the vast majority of the other users in a large scale system.  Indeed, receiving positions of too many users is exactly the problem that the alleged invention of the patents-in-suit sought to solve.  *See* Hong Decl. Ex. 1, '690 patent at 13:23-29 ("[c]rowd control is one of the tougher problems solved by the present system.")  As explained in Section III above, the patents-in-suit provide a system and method for preventing a user from being "overwhelmed by the crowds of avatars likely to occur in a popular virtual world" – in other words, a method for performing "crowd control."  *Id.* at 5:31-35.

Worlds proposes that the phrase "less than all" does not need construction and should be given its plain meaning.  Such an approach, however, would result in overly broad claims that eviscerate the purpose of the disclosed invention.  In this regard, the Federal Circuit's decision in *On Demand Machine Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331 (Fed. Cir. 2006) is instructive. The patent at issue in *On Demand* was directed to a system for manufacturing a single copy of a book that is printed and bound upon provision to the customer of computerized information about the book.  Based on a dictionary definition, "[t]he district court construed the term 'customer' to mean anyone 'who buys goods or services,' and that the 'customer' does not have

14

to be an individual consumer or a retail customer." *Id.* at 1339.  The Federal Circuit reversed, finding that "the claims cannot be of broader scope than the invention that is set forth in the specification." *Id.* at 1340.  The Court noted that "the focus of the Ross patent is immediate single-copy printing and binding initiated by the customer and conducted at the customer's site." *Id.*  In view of the problem that the patent sought to solve and the fact that the "specification repeatedly reinforce[d] its usage of the term 'customer' as the retail consumer," the Court held that the term "customer" must be construed more narrowly to apply only to a retail customer.  *Id.*

Similarly, in *Curtiss-Wright Flow Control Co. v. Velan*, 438 F.3d 1374 (Fed. Cir. 2006), the Federal Circuit considered the proper construction of the term "adjustable."  The patent at issue was directed to a system and a method for de-heading a coke drum.  The claim at issue called for "an adjustable dynamic, live loaded seat coupled to said main body."  Relying primarily on the ordinary meaning, the district court defined "adjustable" to mean "that the bias force on the live loaded seat can be changed in a manner that is 'not limited by any time, place, manner, or means of adjustment.'"  *Id.* at 1378.  The Federal Circuit reversed, finding that the district court's construction placed "too much emphasis on the ordinary meaning of 'adjustable' without adequate grounding of that term within the context of the specification."  *Id*.  The Court articulated two main reasons why the term "adjustable" needed to be more narrowly defined.  First, the Court found that

> the specification of the '714 patent consistently, and without exception, describes adjustment that occurs during operation of the de-header system. The districts court's construction of 'adjustable,' which includes a structure that requires dismantling of the valve to perform the adjustment, finds no support in the overall context of the '714 patent specification.

*Id.* at 1379.  Second, the Court noted that

> the district court's construction of "adjustable" renders that limitation nearly meaningless.  This court finds it difficult, if not impossible, to imagine any mechanical device that is not "adjustable," under the ordinary meaning of that

term adopted by the district court. Almost any mechanical device undergoes change (for instance, when dismantled to replace worn parts) when no consideration is given to the "time, place, manner, or means of adjustment."

*Id.*

The reasoning of the Federal Circuit in *Curtiss-Wright* applies with equal force to the construction of the phrase "less than all" in this case. The specification of the patents-in-suit consistently, and without exception, describes a system where the client receives no more than a set maximum number of positions from the server. Moreover, giving the phrase "less than all" its ordinary meaning, without adequate grounding in the specification, would render the limitation nearly meaningless. There are innumerable ways in which a client might receive less than all of the other users' positions, yet except for the setting of a maximum number at the server, none of these various ways is consistent with or supported by the specification.

For the foregoing reasons, the phrase "position of less than all of the other users' avatars" should be construed to mean "positions for up to a set maximum number of the other users' avatars, which is less than the total number of other users' avatars."

### B.   "DETERMINING, FROM THE RECEIVED POSITIONS, [A/THE] SET OF THE OTHER USERS' AVATARS THAT ARE TO BE DISPLAYED"

| Claim Language | Relevant Claims | Proposed Constructions |
|---|---|---|
| determining, from the received positions, [a/the] set of the other users' avatars that are to be displayed | '690 Claims 1-5, 11-14, 19 | **Activision** – selecting [a/the] set consisting of up to a set maximum number of the other users' avatars to be displayed based on the received positions |
| | | **Worlds** – No construction necessary |
| See Appendix B for a complete list of all variations of this claim term.[7] | | |

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[7]   There are nine variations of the phrase "determining, from the received positions, [a/the] set of the other users' avatars that are to be displayed" that appear in the asserted claims. Activision believes that the variations of this phrase should be construed in the same manner. Thus, Activision addresses only one instance of this phrase in this brief, but has provided a list of all nine variations in Appendix A along with Activision's proposed construction for each variation.

The "determining" phrase appears in many of the asserted claims, including as the second step (b) of claim 1 of the '690 patent. Activision asserts that the step of "determining" refers to the client selecting a set consisting of up to a set maximum number of the other users' avatars to be displayed based on the received positions.

The step of "determining" occurs at the client. As an initial matter, claim 1 of the '690 patent requires "(b) *determining … a set* of the other users' avatars that are to be displayed," whereas dependent claim 2 of the '690 patent requires the additional step of "(d) *displaying the set* of the other users' avatars based on the orientation of the first user's avatar." Thus, the step of "determining" (step (b) in claim 1) must be different from and occur before the step of "displaying" (step (d) in claim 2). The labeling of the steps as step (b) and step (d) confirms that the applicants indeed intended to differentiate the step of "determining" from the step of "displaying."

The process of "displaying" (or "rendering") is described in the specification as follows:

> Rendering engine 120 then reads register 114,[8] remote avatar position table 112, rooms database 70 and avatar image databases as required, and rendering engine 120 renders a view of the virtual world from the view point (position and orientation) of A's avatar.

Hong Decl. Ex. 1, '690 patent at 7:50-54.

The specification discloses only one action by the client before the process of "displaying" described above that relates to the "determining" step – the selection of the other users' avatars' to include in the remote avatar position table 112. According to the passage cited above, the rendering engine 120 must read remote avatar position table 112, which contains "the current positions of the 'in range' avatars near A's avatar." *Id.* at 5:30-31. Thus, the step of

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[8]    "Register 114" contains the current position and orientation of user A's avatar. Hong Decl. Ex. 1, '690 patent at 5:19-20.

"determining" must refer to the identification of the avatars in remote avatar position table 112.

As discussed in Section III above, each client receives up to a set maximum number N avatars from the server.  These avatars are then stored in remote avatar position table 112.  *Id.* at 6:1-2 ("[R]emote avatar position table 112 contains an entry for each neighboring avatar.")  However, the patents-in-suit disclose that the client may further filter the set of the other users' avatars that are displayed from the remote avatar position table 112.   In particular, the specification discloses that:

> Client 60 also maintains a variable, N', which might be less than N, which indicates the maximum number of avatars client 60 wants to see and/or hear. . . . One reason for setting N' less than N is where client 60 is executed by a computer with less computing power than an average machine and tracking N avatars would make processing and rendering of the virtual world too slow.

*Id.* at 5:37-45.

The specification further states that "[w]here N' is less than N, *the client also uses position data to select N' avatars* from the N avatars provided by the server."  *Id.* at 6:6-8 (emphasis added).  This is the only disclosure in the specification where the client uses the positions of the other avatars to "select" a set of avatars that are to be displayed.  Thus, based on the description in the specification, "determining" must refer to the client selecting a set consisting of up to a set maximum number of the other users' avatars to be displayed based on the received positions.

Activision's proposed construction of the "determining" limitation is further supported by dependent claim 4 of the '690 patent.  That claim specifies that *step (1b) of claim 1* (*i.e.*, the "determining" step) comprises:

> (b)(1) determining from the received positions an actual number of the other users' avatars;

> (b)(2) determining a maximum number of the other users' avatars to be displayed; and

(b)(3) comparing the actual number to the maximum number to determine which of the other users' avatars are to be displayed

wherein steps (b)(1)-(b)(3) are performed by the client process associated with the first user

As evidenced by the labeling of these steps as "(b)(1)," "(b)(2)," and "(b)(3)," Claim 4 describes a particular method for performing the "determining" step (b) and is highly informative as to the meaning of "determining." First, under step (b)(1), the client must determine an actual number of the other users' avatars. Under step (b)(2), the client must then determine a maximum number of avatars to be displayed. Last, under step (b)(3), the client compares the actual number to the maximum number to determine which avatars to display. Thus, claim 4 confirms that the step of "determining" in claim 1 refers to the process of selecting up to a set maximum number (*i.e.*, N') by the client.

Finally, Activision's proposed construction is also supported by the prosecution history. During prosecution of the '045 patent, which is the parent of the '690 patent, the applicants added the following limitation to pending original claim 8 to overcome the Shiio prior art reference:  "means for ***determining*** from said list of avatars a set of avatars to be displayed at each client process." Hong Decl. Ex. 6 at 3 (emphasis added). In discussing the addition of the "determining" limitation, applicants expressly stated that "Claim 8 has been amended ***to clarify*** that each target client process ***limits the number of avatars displayed*** in accordance with the available processing power of the target client." *Id.* (emphasis added); *see also* Hong Decl. Ex. 7, at 5. Thus, in its submissions to the USPTO, the applicants equated the meaning of "determining" with identifying up to a maximum number, *i.e.*, a limit, of the other users' avatars to display. Hong Decl. Ex. 6 at 3. The Examiner of the '045 patent accepted this argument and Applicants later again relied on it during prosecution of the '690 patent to argue that the step of "determining" in claim 1 of the '690 patent similarly distinguished the claims from the same

19

Shiio prior art reference. *See, e.g.*, Hong Decl. Ex. 8 at 13.

Based on the disclosure of the specification and the arguments made by applicants during prosecution, the "determining" step should be construed to mean "selecting a set consisting of up to a set maximum number of the other users' avatars to be displayed based on the received positions."

### C.     "PARTICIPANT CONDITION" / "CONDITION"

| Claim Language | Relevant Claims | Proposed Constructions |
|---|---|---|
| a participant condition | '501 Claims 1-8, 10, 12, 14-16 | **Activision** – a condition set by the client<br>Or, alternatively,<br>Indefinite under 35 U.S.C. § 112, ¶ 2 |
| | | **Worlds** – A condition imposed on an avatar, its controlling user, or its associated client device that affects the status or display of an avatar |
| a condition | '998 Claims 1-3, 7- 8, 11-18, 20 | **Activision** – a condition set by the client<br>Or, alternatively,<br>Indefinite under 35 U.S.C. § 112, ¶ 2 |
| | | **Worlds** – No construction necessary<br>Or, alternatively,<br>An expression in a software program that affects the status or display of an avatar |

The term "participant condition" appears in all of the claims of the '501 patent and the term "condition" appears in claims 1-3, 7-8, 11-18, and 20 of the '998 patent.  Claim 1 of the '501 patent provides a representative example:

> 1. A method for enabling a first user to interact with other users in a virtual space, each user of the first user and the other users being associated with a three dimensional avatar representing said each user in the virtual space, the method comprising the steps of:
>
> customizing, using a processor of a client device, an avatar in response to input by the first user;
>
> receiving, by the client device, position information associated with fewer than all of the other user avatars in an interaction room of the virtual space, from a server process, wherein the client device does not receive

position information of at least some avatars that fail to satisfy *a participant condition* imposed on avatars displayable on a client device display of the client device;

determining, by the client device, a displayable set of the other user avatars associated with the client device display; and

displaying, on the client device display, the displayable set of the other user avatars associated with the client device display.

Activision submits that the Court should construe "participant condition" and "condition" to mean "a condition set by the client," and if the Court does not adopt Activision's proposed constructions, in the alternative, these terms are indefinite.

## 1.    "A CONDITION SET BY THE CLIENT"

The terms "participant condition" and "condition" do not appear in the specification of the patents-in-suit or in any of the claims of any of the earlier filed patents.  To understand the meaning of these terms, one must carefully consider their context in the claims of the '501 and '998 patents and the disclosure of the patent specification.  Activision respectfully submits that such a careful analysis inevitably leads to Activision's proposed construction for these terms.  If left unconstrued or construed as proposed by Worlds, these claim terms are unacceptably ambiguous because their boundaries are indeterminable.

The "condition" limitations are focused on deciding what information the server will send to each client.  Looking first to the language of the claims, all of the claims of the '501 and '998 patents require that the client device receive "position information associated with fewer than all of the other user avatars."  This is consistent with the claims of the '690, '558 and '856 patents, which require the client to receive positions for "less than all" of the other users.  The claims of the '501 and '998 patents, however, further require that *"at least some"* of the avatars for which the client does not receive position information "fail to satisfy a [participant condition/condition]."  Thus, the '501 and '998 patent claims require that:  (1) the client receives

21

position information for less than all of the other users' avatars, and (2) at least some, but not

necessarily all, of the avatars for which the client does not receive position information are ones

that failed to satisfy a "participant condition" or "condition."   The "participant

condition/condition" is an additional limitation – beyond the general selection of up to N avatars

by the server – that is also used to decide whether or not position information for an avatar

should be sent to a client.  This can be shown graphically as follows:
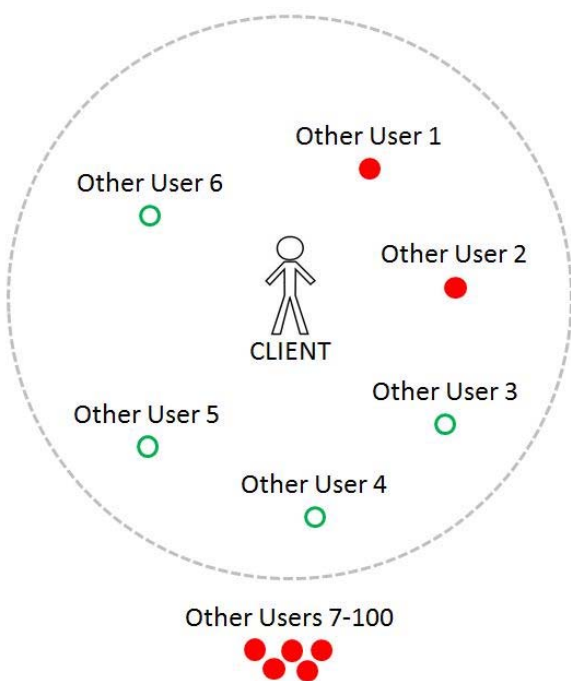


- In this example, if N = 4, the server sends to the Client information for four other users (i.e., "less than all") of the total users in the virtual space.

- The server will send to the Client position information for Other Users 3-6 (4 users total) who are closest in proximity to the Client.

- If the Client wishes to block "Other User 1" and "Other User 2," the Client can set a "participant condition" or "condition" that is used by the server.

- The server will not send to the Client position information for Other Users 1, 2, and 7-100. The server does not send information about Other Users 1 and 2 because they have "failed to satisfy a participant condition / condition" and about Other Users 7-100 because they are not among the four users who are in closest proximity to the Client.

- Other Users 1 and 2 have "failed to satisfy a participant condition / condition" and constitute "at least some" of the users for which the Client did not receive position information.

This interpretation of the claims is consistent with the specification.  With regard to

sending position information for "less than all" of the other users' avatars, the specification first

discloses the required default selection of up to "N" avatars by the server based on proximity.

This is the general "crowd control" scenario that is always performed by the system.  Hong Decl.

Ex. 1, '690 patent at 5:31-37, 13:23-32.

In addition, the specification discusses the option of the client setting some additional criteria for the server to utilize in selecting the avatars that it will send to that particular client. For example, the client may set a value of N', which is less than N, and send that value to the server.[9]  *See, e.g.*, *id.* at 5:37-41.  In this scenario, the server only sends information to the client for N' of the other users' avatars (instead of N).  Or the client may send specific user IDs to the server to identify specific avatars that the client wants to block (so that the client does not receive any position information for such avatars) because those avatars are "unfriendly."  *Id.* at 5:62-67. In this case, the server would utilize those specific user IDs in connection with its identification of the up to N avatars to send to the client.

Again, the claim terms "participant condition" and "condition" do not appear in the specification.  The discussion of these additional criteria of selecting which of the other users' avatars not to send to a particular client are the only disclosures that possibly relate to "participant condition" and "condition," as used in the claims of the '501 and '998 patents.  The only manner of establishing how these additional criteria are related is by having the client set them.

The conditions set by a client – such as N' or blocking user IDs – do not necessarily apply to all of the avatars that a client does not receive.  Thus, these client imposed conditions apply to "at least some" of the other users' avatars that the client does not receive position information for, as required by the claims.  Moreover, dependent claim 11 of the '501 patent

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[9]     The specification discloses that N', a variable set by the client, may be used **by the server** or **by the client** for filtering avatars.  *See* Hong Decl. Ex. 1, '690 patent at 5:40-41 ("The value of N' can be sent by client 0 to server 61" (server filtering)); 6:6-8 ("Where N' is less than N, the client also uses position data to select N' avatars from the N avatars provided by the server." (client filtering)).  For clarification, the claim terms "condition" and "participant condition" concern the use of N' to perform filtering **by the server**, while the claim term "determining, from the received positions, [a/the] set of the other users' avatars that are to be displayed" discussed in Section V.B above concerns the use of N' to perform filtering **by the client**.

expressly states that "the participant condition is based on avatar identifiers (IDs)," which is one

of the examples in the specification of a condition that may be set by the client.  Accordingly,

when read in light of the specification and the other claims in the '501 and '998 patents, it is

apparent that the terms "participant condition" and "condition" refer to a condition set by the

client.

Worlds' proposed construction of the term "participant condition" is not supported by the

specification and generally makes little sense.  There is no disclosure in the specification of the

imposition of a condition on a "controlling user, or its associated client device."  Indeed, it is

unclear how a computer system (client device) could possibly impose a condition on a user of the

computer system.  In addition, Worlds' proposed construction of the term "participant condition"

and its proposed alternative construction of the term "condition" do nothing more than rearrange

the already existing claim language and do not shed any light on the scope of the claim terms.

Accordingly, the Court should adopt Activision's proposed constructions.  *See Halliburton*

*Energy Servs., Inc. v. M-I LLC*, 514 F. 3d 1244, 1253-54 (Fed. Cir. 2008) ("Where there is an

equal choice between a broader and a narrower meaning of a claim, and there is an enabling

disclosure that indicates that the applicant is at least entitled to a claim having the narrower

meaning, we consider the notice function of the claim to be best served by adopting the narrower

meaning.").

### 2.    ALTERNATIVELY, "PARTICIPANT CONDITION" AND "CONDITION" ARE INDEFINITE

If the Court does not construe "participant condition" and "condition" to mean "a

condition set by the client," the Court should find these terms indefinite.  Neither these claim

terms themselves nor Worlds' proposed constructions adequately define the scope of the term

"condition."  *See Halliburton*, 514 F. 3d at 1249 ("[C]laims were held indefinite … where a

person of ordinary skill in the art could not determine the bounds of the claims."); *Honeywell Int'l, Inc. v. Int'l Trade Comm'n*, 341 F.3d 1332, 1338 (Fed. Cir. 2003) ("The definiteness requirement of § 112, ¶ 2 'focuses on whether the claims, as interpreted in view of the written description, adequately perform their function of notifying the public of the [scope of the] patentee's right to exclude.'" (citation omitted)); *Novo Industries, L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1358 (Fed. Cir. 2003) ("Determining whether a claim is definite requires an analysis of 'whether one skilled in the art would understand the bounds of the claim when read in light of the specification.'" (citation omitted)).

On their face, the terms "participant condition" and "condition" have no apparent boundaries. They potentially embrace *any* "condition" that would result in a client not receiving the information of other users' avatars who fail to satisfy that condition. Such "conditions" could be completely unrelated to the system disclosed in the patent, arbitrary, unpredictable, subjective, or even be nonsensical, yet would be covered by the claims.

Worlds' proposed constructions do not solve this problem. They do not allow one to identify the range of "conditions" or "expressions in a software program" that would "affect[] the status or display of an avatar." Thus, if the terms "participant condition" and "condition" do not mean "a condition set by the client," a person of ordinary skill in the art is truly left to wonder what types of "conditions" are encompassed by the claims. *See Halliburton*, 514 F. 3d at 1253 ("While patentees are allowed to claim their inventions broadly, they must do so in a way that distinctly identifies the boundaries of their claims.").

For the foregoing reasons, if Activision's proposed constructions are not adopted, the terms "participant condition" and "condition" should be found indefinite.

D. "PROGRAMMED TO LIMIT . . ."

| Claim Language | Relevant Claims | Proposed Constructions |
|---|---|---|
| programmed to limit the number of remote user avatars shown on the graphic display | '998 Claims 11-15 | **Activision** – programmed to restrict the number of remote user avatars shown on the graphic display to a maximum number of avatars allowed |
| | | **Worlds** – No construction necessary |

Claims 11-15 of the '998 patent are directed to various ways in which the claimed system is "programmed to limit the number of remote user avatars shown on the graphic display." For example, claim 11 requires that the system is programmed to limit the number of remote user avatars shown on the graphic display "based on the proximity of the remote user avatars relative to the local user." Consistent with the ordinary meaning of the term "limit" and its use in the specification, this phrase means "programmed to restrict the number of remote user avatars shown on the graphic display to a maximum number of avatars allowed."

The following are some general dictionary definitions of the term "limit":

- "limit" (v.) means "To restrict or confine within limits" – *Webster's II New College Dictionary* (1995) (Hong Decl., Ex. 9 at 636).

- "limit" (n.) means "The greatest number or amount allowed" – *Webster's II New College Dictionary* (1995) (*Id.*).

- "limit" (v.) means "set or serve as a limit to" or "restrict" – *The Oxford Encyclopedic English Dictionary*, 2d. ed. (1995) (Hong Decl., Ex. 10 at 832).

- "limit" (n.) means "the greatest or smallest amount permissible or possible (*upper limit; lower limit*)" – *The Oxford Encyclopedic English Dictionary*, 2d. ed. (1995) (*Id.*).

- "limit" (v.) means "To confine or restrict within a boundary or bounds" or "To fix definitely; to specify" – *The American Heritage College Dictionary*, 3d ed. (1993) (Hong Decl. Ex. 11 at 787).

- "limit" (n.) means "The greatest or least amount, number, or extent allowed or possible" – *The American Heritage College Dictionary*, 3d ed. (1993) (*Id.*).

The specification of the patents-in-suit uses the term "limit" in a way that is consistent with the above definitions. For example, the specification states

26

> Generally, the *limit* set by server 61 of N avatars and the *limit* set by client 60 of N' avatars control how many avatars A sees.  If server 61 sets a very high value for N, then the *limit* set by client 60 is the only controlling factor.

Hong Decl. Ex. 1, '690 patent at 5:55-58 (emphasis added).

Both the dictionary definition of "limit" and the use of the term in the specification, involve setting a boundary of the greatest number of avatars allowed to be displayed.  In the patents-in-suit, the setting of a limit by the client involves setting a maximum number, N', of other users to display.  This is a definite, specified boundary on the number of avatars to display. In view of this disclosure and the ordinary meaning, the phrase should be construed to require restriction of the number of avatars displayed to a maximum set number.

Worlds argues that no construction of this term is necessary.  However, Worlds' infringement contentions in this case reveal that Worlds is not applying the ordinary meaning of the term as read in light of the specification.  For example, Worlds asserts that Activision's Call of Duty game meets this limitation in claim 12 of the '998 patent because "[t]he client processor only renders avatars in its field of view, and this field of view is based on the position and orientation of the local avatar."   D.I. 58, Worlds' First Supplemental Amendment to the Preliminary Disclosure of the Claims Infringed, Ex J at p. 12.  Although the number of avatars within a players' field of view may be less than the total number of avatars that the client has received position information for, the client is not "programmed to limit *the number* of remote user avatars shown" because there is no specified boundary on *the number* of avatars to display. Depending on which avatars fall within the field of view, the client may display all of the avatars, some of the avatars, or none of the avatars.  Thus, Worlds' proposal that this term need not be construed is simply an invitation for Worlds to argue infringement based on an interpretation of the claims that is inconsistent with the ordinary meaning.

### E.     "AVATAR"

| Claim Language | Relevant Claims | Proposed Constructions |
|---|---|---|
| avatar | '690 Claims 1-20;<br>'558 Claims 4-9;<br>'856 Claim 1;<br>'501 Claims 1-8, 10, 12, 14-16;<br>'998 Claims 1-3, 7-8, 11-20 | **Activision** – a graphical representation of a user |
| | | **Worlds** – graphical representation of a user in three-dimensional form |

The term avatar is used in the patents-in-suit in accordance with its ordinary meaning. Both parties agree that an avatar is a graphical representation of a user. However, Worlds proposes to limit the claims to three-dimensional avatars.

Worlds proposed limitation should be rejected for at least two reasons. First, the ordinary meaning of avatar to a person of ordinary skill in the art and as used in the specification is not limited to a graphical representation <u>in three-dimensional form</u>. *See, e.g.*, Hong Decl. Ex. 12 at 45, *Webster's New World Dictionary of Computing Terms*, 6th ed. (1997) ("**avatar**  A graphical representation of a person that appears on the computer screen in an interactive game or communication system."); Ex. 13 at 38, *Microsoft Computer Dictionary*, 4th ed. (1999) ("**avatar** *n.* In virtual-reality environments such as certain types of Internet chat rooms, a graphical representation of a user. An avatar typically is a generic picture or animation of a human of either gender, a photograph or caricature of the user, a picture or animation of an animal, or an object chosen by the user to depict his or her virtual-reality 'identity.'").

Moreover, the claims of the '501 and '998 patents, unlike the claims of the '690, '558 and '856 patent, expressly require that the avatars are "three-dimensional." Thus, construing the term avatar to require a three-dimensional form would improperly render this language in the claims of the '501 and '998 patents superfluous. *See Bicon, Inc. v. The Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) ("Allowing a patentee to argue that physical structures and

characteristics specifically described in a claim are merely superfluous would render the scope of

the patent ambiguous, leaving examiners and the public to guess about which claim language the

drafter deems necessary to his claimed invention and which language is merely superfluous,

nonlimiting elaboration.  For this reason, claims are interpreted with an eye towards giving effect

to all terms in the claim,"); *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1372 (Fed.

Cir. 2005) ("A claim construction that gives meaning to all the terms of the claim is preferred

over one that does not do so.").

Finally, the specification does not provide any basis for limiting the claimed "avatars" to

avatars that are in three-dimensional form.  In fact, the specification uses the term "three-

dimensional" to refer to avatars that are rendered using two-dimensional panels:

> The orientation is needed for rendering because the avatar images are three-
> dimensional and look different (in most cases) from different angles. . . . In a
> simple embodiment, each avatar image comprises M panels (where M is greater
> than two with eight being a suitable number) and the i-th panel is the view of the
> avatar at an angle of 360*i/M degrees.

Hong Decl. Ex. 1, '690 patent at 6:8-17.

Accordingly, the term "three-dimensional" is used in the specification to refer to an

avatar that is actually comprised of multiple two-dimensional panels.  At any given time, only

one of the panels is seen as the avatar by another user.  The avatar looks different from different

angles because the particular two-dimensional panel that is seen depends on the perspective from

which the avatar is viewed – for example, when looking at the front, a 2-D graphic of the front of

the avatar is displayed, but when looking from the back, a 2-D graphic of the back of the avatar

is displayed.  Thus, if the term "avatar" in the claims were to be limited to what is disclosed in

the specification, the proper construction would be a graphical representation made from two-

dimensional panels that looks different from different angles.  However, because the patent uses

the term "avatar" in accordance with its ordinary meaning, the term should simply be construed

to mean "a graphical representation of a user."

### F.       "CLIENT PROCESS" / "SERVER PROCESS"

| Claim Language | Relevant Claims | Proposed Constructions |
|---|---|---|
| client process | '690 Claims 1-20; '558 Claims 1-9; '856 Claim 1 | **Activision** – a program being executed by a user's computer that receives services from a server |
| | | **Worlds** – software that runs on a user's computer to provide access to a server, so as to allow participation in a shared virtual experience |
| server process | '690 Claims 1-20; '558 Claims 1-7; '856 Claim 1; '501 Claims 1-8, 10, 14-16 | **Activision** – a program being executed by a computer that provides services to a client |
| | | **Worlds** – software that provides one or more services to users of other computers across a network, so as to facilitate participation in a shared virtual experience |

The primary difference between the parties' positions on these terms is that Activision contends that a "process" refers to a software program that is being executed on a processor, whereas Worlds contends that "process" refers to the software program alone. Worlds' proposed construction attempts to equate "process" with "software" and is contrary to the ordinary meaning of the term to those of ordinary skill in the art and as used in the patent specification and claims. Activision's proposed construction should be adopted because it is consistent with the ordinary meaning of the term as used in the art and in the patents-in-suit.

The patents-in-suit utilize the term "process" in accordance with its ordinary meaning. For example, the specification states that

> A person of ordinary skill in the art of computer programming will also understand that where a process is described with reference to a client or server, that process could be *a program executed by a CPU* in that client or server system . . .

Hong Decl. Ex. 1, '690 patent at 4:25-31. The reference to a process as "a program executed by a CPU" is consistent with the dictionary definition of process, which is "a program *while being executed*, usually as one of several in a multiprogramming environment." Hong Decl. Ex. 14 at

109, The Dictionary of Computer Graphics and Virtual Reality, 2d ed. (1995) (emphasis added).

Furthermore, while some claims in the patents-in-suit refer to a "process," others refer to a

"processor" (*e.g.*, Hong Decl. Ex. 4, '501 claims 1-8, 10, 12, 14-16; Ex. 5, '998 claims 1-3, 7-

8,11-20) or "software program" (*e.g.*, Hong Decl. Ex. 1, '690 claims 11-20).   This further

supports the fact that a "process" requires something different from a "software program," or the

"processor" on which the software program runs.

The terms client and server are also used in accordance with their ordinary meaning.

Specifically, the specification states that:

> A client-server network is a network where one or more servers are coupled to
> one or more clients over a communications channel. . . .  A server object is one
> which waits for a request from a client object and then performs some service in
> response to the client request. A client is an object that makes the request.

Hong Decl. Ex. 1, '690 patent, col. 1:14-27.   Consistent with this disclosure, Activision's

proposed constructions reflect that a "server process" involves a computer that provides services

to a client and a "client process" involves a user's computer that receives services from a server.

Furthermore, although Worlds' proposed construction of "client process" attempts to

define the term with reference to a "server," Worlds' proposed construction of "server process"

makes no mention of either a client or a server and is thus overly broad.

## G.    TERMS THAT ARE INDEFINITE

The patent statute requires that every patent "conclude with one or more claims

particularly pointing out and distinctly claiming the subject matter which the applicant regards as

his invention."   35 U.S.C. § 112 ¶ 2. "The definiteness requirement of § 112, ¶ 2 'focuses on

whether the claims, as interpreted in view of the written description, adequately perform their

function of notifying the public of the [scope of the] patentee's right to exclude."   *Honeywell*

*Int'l, Inc. v. Int'l Trade Comm'n*, 341 F.3d 1332, 1338 (Fed. Cir. 2003); *see also Datamize, LLC*

*v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) ("[T]he purpose of the definiteness requirement is to ensure that the claims delineate the scope of the invention using language that adequately notifies the public of the patentee's right to exclude.").

"A determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims." *Datamize*, 417 F.3d at 1347. "If the Court determines that a claim is not 'amenable to construction,' then the claim is invalid as indefinite under 35 U.S.C. § 112, ¶ 2." *Honeywell*, 341 F.3d at 1338; *Datamize*, 417 F.3d at 1347 ("Only claims 'not amenable to construction' or 'insolubly ambiguous' are indefinite.")

### 1.    "SYNCHRONOUSLY DISSEMINATING … POSITIONS"

| Claim Language | Relevant Claims | Proposed Constructions |
|---|---|---|
| synchronously disseminating … positions | '690 Claims 9, 18, 20 | **Activision** – Indefinite under 35 U.S.C. § 112, ¶ 2 |
| | | **Worlds** – Transmitting in a manner that is synchronized or coordinated |

Independent claims 9 and 18 of the '690 patent contain the step of "synchronously disseminating less than all of the positions of the avatars not associated with a particular client process." Activision contends that the term "synchronously disseminating" is insolubly ambiguous and is, therefore, indefinite.

The term "synchronously disseminating" is not a term that has any ordinary meaning. And the term "synchronous" may have different meanings depending on its context. For example, Webster's II New College Dictionary (1995) defines "synchronous" to mean "Happening at the same time" or "Having identical periods." Hong Decl. Ex. 9 at 1118. Thus, the ordinary meaning of synchronous may refer to something happening at the same time, or something happening at equal intervals.

The absence of any generally understood meaning for a claim term does not in and of

itself make the term indefinite.  As a general matter, a claim that contains an ambiguous term is

not indefinite when the meaning of the term may be readily ascertained from the description in

the specification.  *See, e.g.*, *Energizer Holdings, Inc. v. Int'l Trade Comm'n*, 435 F.3d 1366,

1369 (Fed. Cir. 2006) (citation omitted).  In this case, however, the specification does nothing to

resolve the ambiguity in the term "synchronously disseminating."  The term "synchronously"

does not appear anywhere in the specification.  Indeed, the specification does not even discuss a

concept that could reasonably be equated with this term, and there is no suggestion in the

specification of any advantage to be derived from the manner in which position information is

disseminated (*i.e.*, synchronously or otherwise).  The closest that the specification comes to

mentioning the term synchronously is the following discussion that includes the term

"asynchronously":

> In rendering a view, client 60 requests the locations, orientations and avatar image
> pointers of neighboring remote avatars from server 61 and the server's responses
> are stored in remote avatar position table 112.  Server 61 might also respond with
> entries for short object ID lookup table 110.  Alternatively, the updates can be
> done ***asynchronously***, with server 61 sending periodic updates in response to a
> client request or automatically without request.

Hong Decl. Ex. 1, '690 patent at 7:42-49 (emphasis added).

This disclosure, however, is nonsensical.  It appears to juxtapose the descriptions that

precede and follow the word "[a]lternatively," thereby suggesting that the preceding description

refers to synchronous updates, whereas the following description refers to asynchronous updates.

However, the preceding description merely describes a scenario where the client requests and

then receives services from a server; and this same scenario is described with regard to the

meaning of "asynchronously."  Thus, both descriptions refer to updates made by a server in

response to a client request and this passage sheds no light on the meaning of "synchronously

disseminating."  Moreover, nothing in the above disclosure seems to relate in any way to the

ordinary meanings of the term "synchronous."

Worlds' proposed construction also fails to resolve the ambiguity in this term.  Rather than define the term "synchronously," Worlds simply replaces it with the term "synchronized," and then adds the even more ambiguous term "coordinated."  Defining synchronous dissemination to mean transmitting in a manner that is synchronized is a non-construction that is still plagued by the ambiguity of the term "synchronized."  Furthermore, there is absolutely no basis in the intrinsic evidence, or otherwise, for defining "synchronously" to mean "coordinated."  Even if there were, this construction provides no guidance as to what it means to transmit positions in a manner that is coordinated.

Because it is not possible to construe the phrase "synchronously disseminating," it is indefinite.

### 2.     "THIRD USER PERSPECTIVE"

| Claim Language | Relevant Claims | Proposed Constructions |
|---|---|---|
| third user perspective | '998 Claims 2-18 | **Activision** – Indefinite under 35 U.S.C. § 112, ¶ 2 |
| | | **Worlds** – No construction necessary |

Independent claim 2 of the '998 patent claims a system that is programmed to "switch between a rendering on the graphic display that shows the virtual world to the local user from a *third user perspective* and a rendering that allows the local user to view the local user avatar in the virtual world."  Because the term "third user perspective" has no ordinary meaning and is not described anywhere in the patent or prosecution history, it is indefinite.

The meaning of the term "third user perspective" cannot be determined from its usage in the claims.  One possibility would be that it refers to a perspective of an avatar other than the "local user."  However, this interpretation seems unlikely because claim 1 of the '998 patent explicitly refers to "a perspective of one of the remote user avatars."  Thus, when the patentees

wanted to refer to such a perspective, they clearly did so.  Moreover, as noted below, there is no

disclosure anywhere in the specification that would suggest that this is the meaning of "third user

perspective."  Indeed, there is no disclosure at all of rendering a view from the perspective of

another user.

Another possible interpretation would be that it means a third-person perspective, which

generally refers to a view of a user from a perspective that is not associated with any other users.

However, this construction makes no sense in the context of the claim.  The claim requires

switching from a third user perspective to a rendering that allows the local user to view its own

avatar.  Yet, a third-person perspective already allows the local user to view the local user avatar

in the virtual world.  Thus, there would be nothing to switch to.

The specification does not shed any light on the meaning of the term "third user

perspective."  In fact, the specification is almost entirely devoid of any disclosure about

switching perspectives.  The following is the only disclosure that relates in any way to changing

the viewer's perspective:

> Each user interacts with a client machine (not shown) which produces a display
> similar to screen display 10, but from the perspective of the avatar for that
> client/user.  Screen display 10 is the view from the perspective of a third user, D,
> whose avatar is not shown since D's avatar is not within D's own view. Typically,
> a user cannot see his or her own avatar unless the chat system allows "our of
> body" viewing or the avatar's image is reflected in a mirrored object in the virtual
> world.

Hong Decl. Ex. 1, '690 patent at 3:20-28.

This disclosure does not help in understanding the meaning of "third user perspective."

Assuming that "our of body" should read, "out of body," the patent does not explain what is

meant by out-of-body viewing.  This could refer to a "remote user" perspective, a "third-person"

perspective, or some other perspective.  In any case, however, the perspective would include a

view of the local user avatar because the specification states that "a user cannot see his or her

own avatar unless the chat system allows 'out [sic] of body' viewing." *Id.* at at 3:26-28.  Thus, according to the specification, "out of body" viewing is a view that allows a user to see his or her avatar.  Therefore, it would be nonsensical to switch from an "out of body" view to a view that allows the local user to see his avatar.   The disclosure of seeing ones reflection in a mirror suffers from the same problem.

It is simply not possible to know, based on the claims or the specification, what was meant by "third user perspective."  Thus, the scope of the claim cannot be discerned and the claims that include this term are invalid as indefinite.

### 3.   "A RENDERING IN WHICH ALL OF A PERSPECTIVE VIEW OF A LOCAL USER AVATAR OF THE LOCAL USER IS DISPLAYED"

| Claim Language | Relevant Claims | Proposed Constructions |
|---|---|---|
| switch between a rendering in which all of a perspective view of a local user avatar of the local user is displayed and a rendering in which less than all of the perspective view is displayed | '998 Claim 19 | **Activision** – Indefinite under 35 U.S.C. § 112, ¶ 2 |
| | | **Worlds** – No construction necessary<br><br>Or, alternatively,<br><br>Switch between a graphical representation in which all of a local user's field of view is displayed, and a graphical representation in which less than all of a local user's field of view is displayed |

Like independent claims 1 and 2 of the '998 patent, independent claim 19 includes a requirement of switching perspectives.   In claim 19, the switching is between "all of a perspective view" and "less than all of the perspective view."

The term "perspective view" does not appear anywhere in the specification of the patents-in-suit.   Thus, the specification does not contain any explanation of what would constitute "all of a perspective view."  Nor does it disclose how to switch between a rendering of "all of a perspective view" and "less than all of the perspective view."

The specification does use the term "perspective."  For example, the Abstract refers to viewing "a virtual world from the perspective of" a particular user.  Hong Decl. Ex. 1, '690 patent, Abstract.  And in the Description of the Preferred Embodiment, the patent says that "Each user interacts with a client machine (not shown) which produces a display similar to screen display 10, but from the perspective of the avatar for that client/user."  *Id.* at 3:20-23.  This disclosure seems to suggest that the patent uses the term "perspective" to refer to a viewpoint and, thus, perhaps "perspective view" refers to a view from a viewpoint.  However, this does not shed any light on the boundaries of what would constitute "all of a perspective view."  How much of a view must be displayed in order to constitute all of the view?  And what constitutes less than all of that same view, as opposed to an entirely different view?[10]  These are issues for which the patent provides no guidance.  Without such guidance, the claims fail to adequately delineate and provide notice of the scope of the invention.  *Datamize, LLC*, 417 F.3d at 1347.

Apparently recognizing that the term "perspective view" is insolubly ambiguous, Worlds proposes to simply replace it with the term "field of view."  However, there is no basis in the specification for defining perspective view to mean "field of view."  Indeed, "field of view" generally refers to the area that is visible, not to a particular viewpoint.  Worlds cannot simply re-write its claim in a way that is inconsistent with the words of the claim and unsupported by the specification in order to avoid a finding of indefiniteness.  *See Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1349 (Fed. Cir. 2002) (holding that a claim term was indefinite and explaining that "[i]t is not [the Court's] function to rewrite claims to preserve their validity").

Because the patent does not explain what is meant by the term "perspective view," how one displays "all of a perspective view" or how one switches between a rendering of "all of a

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[10]     For example, if you zoom in on a portion of the display, are you displaying less than all of the original perspective view, or a different perspective view altogether?

perspective view" and "less than all of the perspective view," the Court should find that this
limitation is indefinite.

## VI.    CONCLUSION

For the foregoing reasons, Activision respectfully requests that the Court adopt its
proposed constructions and reject those proposed by Worlds.

Date:  April 22, 2013                                    Respectfully submitted,


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## CERTIFICATE OF SERVICE

I hereby certify that this document and all attachments filed through the ECF system will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF) and that paper copies will be sent to those non-registered participants (if any) on April 22, 2013.


/s/     *Kathryn N. Hong*
Kathryn N. Hong

**APPENDIX A**

| No. | Claim Term for Construction | Relevant Claims | Activision's Proposal | Worlds' Proposal[*] |
|---|---|---|---|---|
| 1 | position of less than all of the other users' avatars[**] | '690 Claims 1-5 | positions for up to a set maximum number of the other users' avatars, which is less than the total number of other users' avatars | No construction necessary |
| 2 | determining, from the received positions, [a/the] set of the other users' avatars that are to be displayed[**] | '690 Claims 1-5, 11-14, 19 | selecting [a/the] set consisting of up to a set maximum number of the other users' avatars to be displayed based on the received positions | No construction necessary |
| 3 | a participant condition | '501 Claims 1-8, 10, 12, 14-16 | a condition set by the client<br><br>Or, alternatively,<br><br>Indefinite under 35 U.S.C. § 112, ¶ 2 | A condition imposed on an avatar, its controlling user, or its associated client device that affects the status or display of an avatar |
| 4 | a condition | '998 Claims 1-3, 7- 8, 11-18, 20 | a condition set by the client<br><br>Or, alternatively,<br><br>Indefinite under 35 U.S.C. § 112, ¶ 2 | No construction necessary<br><br>Or, alternatively,<br><br>An expression in a software program that affects the status or display of an avatar |

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[*]        Activision's Opening Claim Construction Brief and Appendix A contain Worlds' proposed constructions that Worlds presented to Activision during the parties' exchange of proposed claim terms and constructions and further discussions between the parties in an attempt to narrow the disputes over claim construction.

[**]        See Appendix B for a complete list of all variations of this claim term and Activision's proposed construction for each variation.

1

**APPENDIX A**

| No. | Claim Term for Construction | Relevant Claims | Activision's Proposal | Worlds' Proposal[*] |
|---|---|---|---|---|
| 5 | programmed to limit the number of remote user avatars shown on the graphic display | '998 Claims 11-15 | programmed to restrict the number of remote user avatars shown on the graphic display to a maximum number of avatars allowed | No construction necessary |
| 6 | avatar | '690 Claims 1-20; '558 Claims 4-9; '856 Claim 1; '501 Claims 1-8, 10, 12, 14-16; '998 Claims 1-3, 7-8, 11-20 | a graphical representation of a user | Graphical representation of a user in three-dimensional form |
| 7 | client process | '690 Claims 1-20; '558 Claims 1-9; '856 Claim 1 | a program being executed by a user's computer that receives services from a server | Software that runs on a user's computer to provide access to a server, so as to allow participation in a shared virtual experience |
| 8 | server process | '690 Claims 1-20; '558 Claims 1-7; '856 Claim 1; '501 Claims 1-8, 10, 14-16 | a program being executed by a computer that provides services to a client | Software that provides one or more services to users of other computers across a network, so as to facilitate participation in a shared virtual experience |
| 9 | synchronously disseminating … positions  synchronously disseminating | '690 Claims 9, 18, 20 | Indefinite under 35 U.S.C. § 112, ¶ 2 | Transmitting in a manner that is synchronized or coordinated |
| 10 | third user perspective | '998 Claims 2-3, 7-8, 11-17 | Indefinite under 35 U.S.C. § 112, ¶ 2 | No construction necessary |

2

**APPENDIX A**

| No. | Claim Term for Construction | Relevant Claims | Activision's Proposal | Worlds' Proposal* |
|---|---|---|---|---|
| 11 | switch between a rendering in which all of a perspective view of a local user avatar of the local user is displayed and a rendering in which less than all of the perspective view is displayed | '998 Claim 19 | Indefinite under 35 U.S.C. § 112, ¶ 2 | No construction necessary<br><br>Or, alternatively,<br><br>Switch between a graphical representation in which all of a local user's field of view is displayed, and a graphical representation in which less than all of a local user's field of view is displayed |

3

**APPENDIX B**

| No. | Claim Term for Construction | Relevant Claims | Activision's Proposal |
|---|---|---|---|
| 1 | position of less than all of the other users' avatars | '690 Claims 1-5 | positions for up to a set maximum number of the other users' avatars, which is less than the total number of other users' avatars |
| | positions of less than all of the avatars that are not associated with the client process | '690 Claims 6-8, 15-17;<br>'558 Claims 6-7 | positions for up to a set maximum number of the avatars that are not associated with the client process, which is less than the total number of avatars that are not associated with the client process |
| | less than all of the positions of the avatars not associated with a particular client process | '690 Claim 9 | positions for up to a set maximum number of the avatars not associated with a particular client process, which is less than the total number of avatars not associated with a particular client process |
| | positions of the avatars associated with less than all of the other users | '690 Claim 10 | positions for up to a set maximum number of the other users' avatars, which is less than the total number of other users' avatars |
| | position of at less than all of the other users' avatar | '690 Claims 11-14, 19 | positions for up to a set maximum number of the other users' avatars, which is less than the total number of other users' avatars |
| | positions of less than all of the avatars not associated with a particular client process | '690 Claims 18, 20 | positions for up to a set maximum number of the avatars not associated with a particular client process, which is less than the total number of avatars not associated with a particular client process |

**APPENDIX B**

| No. | Claim Term for Construction | Relevant Claims | Activision's Proposal |
|---|---|---|---|
| | positions of avatars in a set associated with said each client process, wherein the set associated with said each client process does not include at least one avatar of the avatars associated with the client processes of the plurality of users, the at least one avatar not being associated with said each client process | '558 Claims 4-5 | positions of avatars in a set associated with said each client process, wherein the set consists of positions for up to a set maximum number of the avatars associated with the other client processes of the plurality of users, which is less than the total number of avatars associated with the other client processes |
| | a second plurality of second received positions from the first plurality of second received positions, the second plurality of second received positions being smaller than the first plurality of second received positions | '558 Claims 8-9 | a second plurality of second received positions from the first plurality of second received positions, the second plurality of second received positions consisting of positions for up to a set maximum number of the second avatars, which is less than the total number of second avatars |
| | positions of fewer than all of the second avatars | '856 Claim 1 | positions for up to a set maximum number of the second avatars, which is less than the total number of second avatars |
| | position information associated with fewer than all of the other user avatars | '501 Claims 1-8, 10, 12, 14-16 | position information for up to a set maximum number of the other user avatars, which is less than the total number of other user avatars |
| | [positions/ position information] associated with less than all of the remote user avatars | '998 Claim 1-3, 7-8, 11-20 | [positions/position information] for up to a set maximum number of the remote user avatars, which is less than the total number of remote user avatars |

2

**APPENDIX B**

| No. | Claim Term for Construction | Relevant Claims | Activision's Proposal |
|---|---|---|---|
| 2 | determining, from the received positions, [a/the] set of the other users' avatars that are to be displayed | '690 Claims 1-5, 11-14, 19 | selecting [a/the] set consisting of up to a set maximum number of the other users' avatars to be displayed based on the received positions |
| | determining from the positions transmitted in step (c), by each client process, a set of the avatars that are to be displayed | '690 Claims 6-8, 15-17; '558 Claims 6-7 | selecting, by each client process, a set consisting of up to a set maximum number of the avatars to be displayed based on the positions transmitted in step (c) |
| | determine from the positions a set of avatars that are to be displayed | '690 Claims 9, 18, 20 | select a set consisting of up to a set maximum number of avatars to be displayed based on the positions |
| | determine from the received positions a set of the other users' avatars that are to be displayed | '690 Claim 10 | select a set consisting of up to a set maximum number of the other users' avatars to be displayed based on the received positions |
| | determining from the positions received in step (C), by said each client process, avatars that are to be displayed | '558 Claims 4-5 | selecting, by said each client process, up to a set maximum number of avatars to be displayed based on the positions received in step (C) |
| | determining, from the received positions, a set of the second avatars that are to be displayed | '856 Claim 1 | selecting a set consisting of up to a set maximum number of the second avatars to be displayed based on the received positions |
| | determining, by the client device, a displayable set of the other user avatars associated with the client device display | '501 Claims 1-8, 10 | selecting, by the client device, a set consisting of up to a set maximum number of the other user avatars associated with the client device display to be displayed |

3

**APPENDIX B**

| No. | Claim Term for Construction | Relevant Claims | Activision's Proposal |
|---|---|---|---|
| | determine a set of the other users' avatars displayable on a screen associated with the client device | '501 Claim 12 | select a set consisting of up to a set maximum number of the other users' avatars to be displayed on a screen associated with the client device |
| | determining, by the client device, a displayable set of the other user avatars associated with the client device display | '501 Claims 14-16 | selecting, by the client device, a set consisting of up to a set maximum number of the other user avatars associated with the client device display to be displayed |
| 3 | a participant condition | '501 Claims 1-8, 10, 12, 14-16 | a condition set by the client

Or, alternatively,

Indefinite under 35 U.S.C. § 112, ¶ 2 |
| 4 | a condition | '998 Claims 1-3, 7-8, 11-18, 20 | a condition set by the client

Or, alternatively,

Indefinite under 35 U.S.C. § 112, ¶ 2 |
| 5 | programmed to limit the number of remote user avatars shown on the graphic display | '998 Claims 11-15 | programmed to restrict the number of remote user avatars shown on the graphic display to a maximum number of avatars allowed |
| 6 | avatar | '690 Claims 1-20; '558 Claims 4-9; '856 Claim 1; '501 Claims 1-8, 10, 12, 14-16; '998 Claims 1-3, 7-8, 11-20 | a graphical representation of a user |
| 7 | client process | '690 Claims 1-20; '558 Claims 1-9; '856 Claim 1 | a program being executed by a user's computer that receives services from a server |

**APPENDIX B**

| No. | Claim Term for Construction | Relevant Claims | Activision's Proposal |
|---|---|---|---|
| 8 | server process | '690 Claims 1-20; '558 Claims 1-7; '856 Claim 1; '501 Claims 1-8, 10, 14-16 | a program being executed by a computer that provides services to a client |
| 9 | synchronously disseminating … positions<br><br>synchronously disseminating | '690 Claims 9, 18, 20 | Indefinite under 35 U.S.C. § 112, ¶ 2 |
| 10 | third user perspective | '998 Claims 2-3, 7-8, 11-17 | Indefinite under 35 U.S.C. § 112, ¶ 2 |
| 11 | switch between a rendering in which all of a perspective view of a local user avatar of the local user is displayed and a rendering in which less than all of the perspective view is displayed | '998 Claim 19 | Indefinite under 35 U.S.C. § 112, ¶ 2 |

5